Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of processing a data signal comprising symbols each representing a plurality of data bits, the method comprising:

demodulating the data signal to determine the symbols;

mapping each of the symbols to a plurality of data bits;

assigning ~~a confidence value~~ to each bit in a ~~symbol;~~ symbol a confidence value determined from constant values which are based on the mapping; and

effecting convolutional decoding of a bit stream associated with the assigned confidence values. ~~values, wherein the confidence values comprise constant values based on the mapping.~~

2. (Original) A method according to claim 1 wherein the step of assigning a confidence value comprises mapping symbols to binary bits by means of a Gray code.

3. (Previously Presented) A method according to claim 1,

further comprising incorporating data from the step of assigning in a look-up table for reference.

4. (Previously presented) A method according to claim 1 comprising re-coding hard decisions as an (I,Q) pair and taking soft decisions therefrom.

5. (Previously Presented) A method according to claim 1 comprising demodulation by decision feedback equalization with whitening matched filtering.

6. (Previously Presented) A method according to claim 1 comprising using a digital processor for equalization.

7. (Previously Presented) A method according to claim 1 using dedicated signal processing hardware for equalization.

8. (Previously presented) A method according to claim 1 comprising de-interleaving, de-puncturing and incremental redundancy steps before convolutional decoding.

9. (Currently Amended) A computer program product directly loadable into the internal memory of a digital computer, comprising software code portions for processing a data signal, the data signal comprising symbols each representing a plurality of data bits, when said product is run by a computer ~~by~~ carrying out the steps of:

demodulating the data signal to determine the symbols;

mapping each of the symbols to a plurality of data bits;

assigning ~~a confidence value~~ to each bit in a ~~symbol;~~ symbol a confidence value determined from constant values which are based on the mapping; and

effecting convolutional decoding of a bit stream associated with the assigned confidence values. ~~values, wherein the confidence values comprise constant values based on the mapping.~~

10. (Currently Amended) An apparatus for processing a data signal comprising symbols each representing a plurality of data bits, the apparatus comprising:

means to receive the data signal;

means to demodulate the data signal to determine the symbols;

mapping means for mapping each symbol to a plurality of bits and for assigning to each bit in a symbol a confidence ~~value;~~ value determined from constant values which are based on the mapping; and

means for effecting convolutional decoding of a bit stream associated with the assigned confidence values. ~~values, wherein the confidence values comprise constant values based on the mapping.~~

11. (Previously Presented) An apparatus according to claim 10 wherein the mapping means is adapted to map symbols to binary bits by a Gray code.

12. (Previously Presented) An apparatus according to claim 10, further comprising a look-up table incorporating data from the mapping means.

13. (Previously Presented) An apparatus according to claim 10 comprising means to re-code hard decisions as an (I,Q) pair and means to take soft decisions therefrom.

14. (Previously Presented) An apparatus according to claim 10 comprising demodulation by decision feedback equalization with whitening matched filtering.

15. (Previously Presented) An apparatus according to claim 10 comprising a digital processor for equalization.

16. (Previously Presented) An apparatus according to claim 10 comprising dedicated signal processing hardware for equalization.

17. (Previously Presented) An apparatus according to claim 10 comprising means to de-interleave, depuncture, and effect incremental redundancy before convolutional decoding.

18. (Canceled)

19. (Canceled)

20. (Previously Presented) The method of claim 1, wherein the step of assigning a confidence value to each bit in a symbol includes assigning a confidence value based upon the position of the bit in its symbol.

21. (Previously Presented) The apparatus of claim 10, wherein the mapping means assigns a confidence value to each bit in the symbols by assigning a confidence value based upon the position of the bit in its symbol.

22. (Previously Presented) The computer program product of claim 9 wherein assigning confidence values to bits comprises retrieving confidence values from a look-up table.

23. (Previously Presented) The computer program product of claim 22 wherein the confidence values further comprise confidence values based on interpolation between values in the look-up table.

24. (Previously Presented) The method of claim 1 wherein the confidence values further comprise confidence values based on interpolation between values stored in a look-up table.

25. (Previously Presented) The apparatus of claim 10 wherein the confidence values further comprise confidence values based on interpolation between values stored in a look-up table.

26. (Currently Amended) An apparatus for processing a data signal comprising symbols representing data bits, the apparatus comprising:

a demodulator configured to extract the symbols from the signal;

a symbol mapper configured to map each symbol to a respective plurality of bits and to assign to each bit in a symbol a confidence value determined from ~~to each bit, the confidence values comprising~~ constant values which are based on the mapping; and

a convolutional decoder configured to decode a bit stream associated with the assigned confidence values.

27. (Previously Presented) The apparatus of claim 26 wherein the symbol mapper is configured to map symbols using a Gray code.

28. (New) The method of claim 1 wherein the data signal comprises 8-PSK signals and each confidence value is determined from a set $[-\alpha, -1, 1, \alpha]$, where α is a constant.

29. (New) The method of claim 28 wherein the value of α is 1.7.